

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-133 (Cancelled).

134. (Currently Amended): A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as an active principle a recombinant protein whose ~~essential constituent~~ polypeptide sequence comprises:

- a) a 19 kilodalton (p19) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium* parasite that is infectious in man, other than *Plasmodium vivax* ~~or a portion of said kilodalton (p19) C-terminal fragment, other than a fragment from Plasmodium vivax~~; which induces an immune response and which can inhibit parasitemia *in vivo* in a host infected with said *Plasmodium* parasite; wherein said C-terminal fragment remains anchored to the surface of said plasmodium parasite at an end of its penetration phase into human erythrocytes during an infectious cycle and wherein said recombinant protein comprises conformational epitopes, ~~recognized by human antisera~~ which are contained in two epidermal growth factor regions and is unstable in a reducing agent, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has the atomic coordinates in Annexes I or III; and the NMR fingerprints of Figures 12.0a to 12.0c or 12.2a to 12.2c ; and
- b) alum.

Claims 135- 138 (Cancelled)

139. (Currently Amended): The vaccinating composition of Claim 134, ~~which~~ wherein said recombinant protein further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide ~~region~~ containing less than 50 amino acids of a C-terminal ~~region~~ end of p33 of a MSP-1 protein of a *Plasmodium* parasite.

140. (Currently Amended): The vaccinating composition of Claim 139, wherein said ~~polypeptide region is the C-terminal region end of p33 resulting from the is~~

obtained from a cleavage of p42 of a same MSP-1 protein of a *Plasmodium* parasite.

141. (Currently Amended): The vaccinating composition of Claim 139, wherein said polypeptide ~~region~~ contains less than 10 amino acids.
142. (Currently Amended): The vaccinating composition of Claim 140, wherein said C-terminal ~~region~~ end of p33 is that ~~region~~ end that is conserved in *P. falciparum*.
143. (Currently Amended): The vaccinating composition of Claim 134, wherein said C-terminal p19 fragment remains anchored to the surface of said *Plasmodium* parasite via a glycosylphosphatidylinositol group which anchors the C-terminal p19 fragment to ~~the a~~ membrane of a eukaryotic cell ~~infected with the MSP-1 protein expressing a MSP1 protein of a *Plasmodium* parasite.~~
144. (Canceled).
145. (Currently Amended): A vaccinating composition against a *Plasmodium* parasite which is infectious in man, comprising as a active principle a recombinant protein whose ~~essential constituent~~ polypeptide sequence comprises:
 - a. a 19 kilodalton (p19) C-terminal fragment of a surface protein 1 of a merozoite form (MSP-1 protein) of a *Plasmodium cynomolgi* parasite that is infectious in man, and wherein said recombinant protein comprises conformational epitopes, ~~recognized by human sera~~ which are contained in two epidermal growth factor regions and is unstable in a reducing agent; and
 - b. alum.
- 146.-147 (Canceled).
148. (Currently Amended): The vaccinating composition of Claim 134, ~~which,~~ wherein said recombinant protein is conjugated to a carrier molecule.

149. (Previously Presented): The vaccinating composition of Claim 145, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein I of the merozoite form (MSP-1 protein) has the atomic coordinates in Annex I; and the NMR fingerprints of Figures 12.0a to 12.0c.

150. (Previously Presented): The vaccinating composition of Claim 143, which is hydrosoluble.

151. (Currently Amended): A recombinant protein whose ~~essential—constituent~~ polypeptide sequence comprises:

(a) leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met₁ to Asp₃₂; and

(b) a 19 kilodalton C-terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium falciparum* from

~~Asn₁₆₁₃ to Ser₁₇₀₅~~ Asn at amino acid position 3 to Ser at amino acid position 95 of SEQ ID NO: 1 ~~or a portion of said C terminal fragment~~ which fragment induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

152. (Currently Amended): A recombinant protein whose ~~essential—constituent~~ polypeptide sequence comprises:

~~(e)~~(a) a leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met₁ to Asp₃₂; and

~~(d)~~(b) a 19 kilodalton C-terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium falciparum* from

~~Asn₁₆₁₃ to Ser₁₇₂₆~~ Asn at amino acid position 3 to Ile at amino acid position 116 of SEQ IDNO: 4 ~~or a portion of said C terminal fragment~~ which fragment induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

153. (Currently Amended): A recombinant protein whose ~~essential constituent~~ polypeptide sequence comprises:

~~(e)-(a)~~ a leader sequence comprising thirty-two amino acids of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium vivax* from Met₁ to Asp₃₂; and

~~(e)-(b)~~ a 19 kilodalton C-terminal fragment of a surface protein 1 of a merozoite form (a MSP-1 protein) of *Plasmodium cynomolgi* from Lys₂₇₆ to Ser₃₈₀ as shown in SEQ ID NO: 11 ~~or a portion of said C-terminal~~ which fragment induces an immune response which can inhibit parasitemia *in vivo* in a host infected with a *Plasmodium* parasite.

154. (Currently Amended): The recombinant protein of Claim 151, wherein said 19 kilodalton (~~p19 pig~~) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annex III; and NMR fingerprints of Figures 12.2 a to 12.2c.

155. (Previously Presented): The recombinant protein of Claim 152, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annex III; and NMR fingerprints of Figures 12.2 a to 12.2c.

156. (Previously Presented): The recombinant protein of Claim 153, wherein said 19 kilodalton (p19) C-terminal fragment of the surface protein 1 of the merozoite form (MSP-1 protein) has atomic coordinates in Annex I; and NMR fingerprints of Figures 12.0 a to 12.0c.

157. (Currently Amended): The recombinant protein of Claim 151, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide ~~region~~ containing less than 50 amino acids of a C-terminal ~~region~~ end of p33 from a MSP-1 protein of a *Plasmodium* parasite.

158. (Currently Amended): The recombinant protein of Claim 152, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide ~~region~~ containing less than 50 amino acids of a C-terminal ~~region~~ end of p33 from a MSP-1 protein of a *Plasmodium* parasite.

159. (Currently Amended): The recombinant protein of Claim 153, which further comprises, upstream of said 19 kilodalton (p19) C-terminal fragment, a polypeptide ~~region~~ containing less than 50 amino acids of a C-terminal ~~region~~ end of p33 from a MSP-1 protein of a *Plasmodium* parasite.

160. (Currently Amended): The recombinant protein of Claim 157, wherein said ~~polypeptide region is the~~ C-terminal ~~region~~ end of p33 ~~resulting is obtained from the a~~ cleavage of p42 of ~~the a~~ same MSP-1 protein of a *Plasmodium* parasite..

161. (Currently Amended): The recombinant protein of Claim 158, wherein said ~~polypeptide region is the~~ C-terminal ~~region~~ end of p33 ~~resulting from the a~~ cleavage of p42 of ~~the a~~ same MSP-1 protein of a *Plasmodium* parasite.

162. (Currently Amended): The recombinant protein of Claim 159, wherein said ~~polypeptide region is the~~ C-terminal ~~region~~ end of p33 ~~resulting is obtained from the a~~ cleavage of p42 of ~~the a~~ same MSP-1 protein of a *Plasmodium* parasite..

163. (Currently Amended): The recombinant protein of Claim 157, wherein said polypeptide ~~region~~ contains less than 10 amino acid residues.

164. (Currently Amended): The recombinant protein of Claim 158, wherein said polypeptide ~~region~~ contains less than 10 amino acid residues.

165. (Currently Amended): The recombinant protein of Claim 159, wherein said polypeptide ~~region~~ contains less than 10 amino acid residues.

166. (Currently Amended): The recombinant protein of Claim 152, wherein said polypeptide 19 kilodalton C-terminal fragment remains anchored to the surface of said

Plasmodium parasite ~~via~~ has a glycosylphosphatidylinositol group which anchors ~~the p19~~
said C-terminal fragment to ~~the~~ a membrane of a eukaryotic cell expressing ~~the~~ a MSP-1
protein.

167. (Previously Presented): An oligomer of the recombinant protein of Claim 151.

168. (Previously Presented): An oligomer of the recombinant protein of Claim 152.

169. (Previously Presented): An oligomer of the recombinant protein of Claim 153.

170. (Previously Presented): The oligomer of Claim 167, wherein said oligomer
comprises from 2 to 50 monomer units of a sequence of said recombinant protein.

171. (Previously Presented): The oligomer of Claim 168, wherein said oligomer
comprises from 2 to 50 monomer units of a sequence of said recombinant protein.

172. (Previously Presented): The oligomer of Claim 169, wherein said oligomer
comprises from 2 to 50 monomer units of a sequence of said recombinant protein.

173. (Previously Presented): The recombinant protein of Claim 151, which is conjugated
to a carrier molecule.

174. (Currently Amended): The recombinant protein of Claim 152, which is conjugated to
a carrier ~~carrier~~ molecule.

175. (Previously Presented): The recombinant protein of Claim 153, which is conjugated
to a carrier molecule.